

Registration and Disposition Process for International Space Station Entrepreneurial Offers*

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Abstract. This paper describes the process by which commercial companies can submit offers involving the International Space Station during its formative period. NASA has established a formal process for handling entrepreneurial offers. The process (which is ISO 9000 compliant) includes registration of the offer, review of business, technical, and legal issues; dispositioning (acceptance or rejection) of the offer; and notification to the proposer. Each offer is reviewed based on the completeness of its business plan and the technical feasibility of the offer. An offer is judged by two primary criteria: 1) private-to-public ratio of investment; and, 2) presence of non-government market. NASA's commercial objective is to expand the U.S. economy in space-related markets.

Introduction

With the International Space Station (ISS) now being assembled, new frontiers in human space exploration, technology, and business will be possible. The ISS is an unparalleled international scientific and technological cooperative venture that will offer opportunities to the scientific as well as the business community. Advances in the fundamental understanding of physical phenomena due to the micro-gravity and ultra-vacuum environments will be explored and utilized for societal and economic gains.

The ISS is built primarily to serve as an international laboratory for scientific and engineering research. We believe that as a result of research on the ISS, these areas will ultimately generate revenue for a variety of private businesses. While International Space Station is primarily a research laboratory, we recognize that commercial ventures could touch on almost any aspect of human endeavor; including the arts, and entertainment. To help private businesses take the first steps into space, NASA has developed a plan to help business work aboard the ISS.

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Legislative and Policy Directives

Commercial activities aboard the ISS derive their mandate from federal legislation. The Commercial Space Act of 1998 (P.L. 105-303) declares “economic development of Earth orbital space” as a priority goal for the International Space Station¹. In this law, Congress further declares “that free and competitive markets create the most efficient conditions for promoting economic development, and should therefore govern the economic development of Earth orbital space.” Congress further declares that the “use of free market principles in operating, servicing, allocating the use of, and adding capabilities to the Space Station, and the resulting fullest possible engagement of commercial providers and participation of commercial users, will reduce Space Station operational costs for all partners and the Federal Government's share of the United States burden to fund operations.”

Implementation through the Entrepreneurial Offer Process

The implementation plan for the Commercial Space Act of 1998 is found in NASA's Commercial Development Plan for the International Space Station published November 16, 1998². The specific implementation of “free market principles” is embodied in the plan, the entrepreneurial offer process and the pricing policy.

The entrepreneurial offer process has been established to most effectively and fairly accept and evaluate offers, resulting in the negotiation of NASA Space Act Agreements to fulfill the commercial activity. The development of the process was created with the “free market” principle in mind. This approach creates a common ground of understanding and communication with potential commercial offerors.

Companies are accustomed to submitting business plans to potential investors and partners and this is the type of information NASA requires to evaluate offers. This approach creates the fairest approach in evaluating and accepting offers. Each offer is reviewed based on the soundness of its business plan and its ability to perform the technical aspects of the offer.

In a capitalist economy, the capital markets select from all the business proposals those they deem having the most credibility and ability to achieve business success. NASA recognizes the strength of this “free market” system, and therefore utilizes it within its offer analyses. An offer is primarily judged by the following two key criteria; (1) private-to-public ratio of investment, and (2) the presence of non-government markets.

¹ U.S. House. 105th Congress, H.R. 1702, Commercial Space Act of 1998, as introduced in the House. ONLINE. THOMAS. Available: <http://thomas.loc.gov/cgi-bin/bdquery/z?d105:HR01702;|TOM:/bss/d105query.html> [28 October 1998].

² Commercial Development Plan for the International Space Station, NASA Headquarters, Space Utilization and Product Development Division, November 16, 1998.

The presence of these criteria in an offer demonstrate the capital markets support and a true commercial plan.

It is important to note that the entrepreneurial offer is a new and distinct approach to doing business. There exists a clear distinction between “Unsolicited Proposals,” and the new Entrepreneurial Offer, utilized for ISS commercial development. An entrepreneurial offer is a written offer for a new or innovative idea, involving ISS assets, submitted to NASA on the initiative of the offeror for the purpose of creating value-added products or services for sale primarily to the private sector, which is not in response to a request for proposal.³ An unsolicited proposal is a written proposal for a new or innovative idea submitted to an agency on the initiative of the offeror for the purpose of obtaining a contract with the Government which is not in response to a request for proposal⁴.

An Entrepreneurial Offer does not result in any funding from NASA. This distinguishes it from a procurement contract which is funded by NASA and results from an Unsolicited Proposal.

Entrepreneurial Offer Components

In order to fairly assess all entrepreneurial offers, we developed a list of components to be included in all offers. The submittal of these components ensure that each company is assessed on a common basis and that objective and quantitative measures are used.

The entrepreneurial offer content closely resembles that of a standard business plan (Figure 1). This allows for a fair evaluation of merit based on standard business practices and the “free market principle.” This approach is additionally advantageous for the offerors since they are familiar with these types of proposals and do not have to learn or adhere to a new format.

Offers are to include a description of the venture which outlines the business, the private investment, and the services requested and benefits to NASA.

Basic terms and conditions of the proposed agreement should include resources and commitments rendered by both the proposer and NASA. Expected length of time of agreement and all conditions should be included.

A substantive technical summary of the product or service should be included. This allows assessment for risk and cost of integration and compatibility with the ISS.

Company and management team information is necessary to evaluate the competence and sufficiency of the organization relative to the proposed project.

³ NASA, Report to Congress on *Opportunities for Commercial Providers on the International Space Station*, May 1999.

⁴ Federal Acquisition Regulations (FAR), Subpart 15.601.

Market analysis and strategy demonstrates that the proposed offer is commercially viable with a customer base and achievable sales.

The financial plan is necessary in order to fairly evaluate the needs of the company at various stages during the partnership, so that a realistic commitment can be achieved.

Letters of commitment from investors, customers, suppliers or other pertinent organizations help to substantiate the offer.

Offer Description	Points of contact (business & technical)
Describe business venture (technical & commercial merits)	Organizational Structure
Project milestone schedule	Market Analysis & Strategy Summary
Private investment	Industry Analysis – competition, risks, etc.
Services required from US Government/ NASA	Target market and projected market capture
Benefits to the Government/NASA/public	Marketing strategy
	Sales Forecast and basis of estimates (Pricing)
Terms and Conditions of Agreement	
Technical Information	Financial Plan
Description of hardware/software/services	1. Production Plan
Description of operational concept	2. Revenue Projection
	3. Cost Projection
Company Information & Management	4. Projected Profit and Loss
Team	5. Projected Cash Flow
Ownership	
Location and Facilities	Letters of intent/commitment
Services provided	(financial, personnel, customers)
Team Members	

Figure 1. Entrepreneurial Offer Components

Entrepreneurial Offer Criteria

Each offer must be complete in its information. All required components of the entrepreneurial offer must be addressed.

Those offers that have the highest private to public funding ratio are given priority. This criterion ensures that the market is making the selection and that the proposal is truly a commercial offer.

The presence of a non-government market is also a key criteria in the analysis of the offers. This criteria ensures that the proposal is creating new value from the ISS facility and not a circumvention of federal procurement rules.

The offer must demonstrate a clear business case and return on investment to the company and show how the business will eventually free itself of government subsidizations. This ensures that the company is not making a profit merely by using a federal subsidy.

The recovery of costs by NASA can be in the form of revenue, equipment, or services but must be clearly demonstrated in the business plan. The compensation for NASA's costs are guided by provisions reviewed and accepted by both the US executive and legislative branches of government. The policy is that NASA is to "establish a market-based price structure with a marginal cost floor for the United States commercial use of resources, accommodations, transportation services, and related infrastructure of the International space station."⁵ In instances where it is deemed necessary and advantageous to the spirit of the Act, the NASA Administrator is empowered to grant waivers to this policy.

Entrepreneurial Offer Process

A procedure for accepting, registering and dispositioning offers has been created and is titled "Registration and Disposition Process for International Space Station Entrepreneurial Offers." This process is ISO 9000 compliant and therefore quality records are maintained for all the procedures. A flowchart of the process along with a descriptive is found in the copy which is attached to this paper. This flowchart is the core of the ISO 9000 process. Each block in the flowchart has a corresponding descriptive detailing the responsible parties, and any resultant actions or quality records. Quality records are documents that are maintained.

A single point of entry for Entrepreneurial Offers has been established in order to simplify the process for the offerors. Each entrepreneurial offer should include a cover letter formally proposing the offer and submitted to:

National Aeronautics and Space Administration
Human Exploration and Development Enterprise
UM/Director, Space Utilization and Product Development Division
Washington, DC 20546-001

Each offer submitted will be registered, logged and the offeror will receive a notification of registration letter. An offer must address all the required contents otherwise it is considered a concept.

If the offer seeks a contract it will be deemed an Unsolicited Proposal at which time it will be forwarded to the ISS Program Office, Procurement Division at NASA Johnson Space Center.

⁵ United States Congress, *Commercial Space Act of 1998*, Public Law 105-303, 28 October, 1998.

After being registered, the offer is then evaluated. The process of evaluation includes a technical evaluation by NASA Johnson Space Center to determine the projects impact on the ISS program. A business and policy review of the offer is performed at NASA Headquarters. Throughout the review process an open dialogue is expected between NASA and the offeror in order to allow for updated information, clarifications and resolutions of issues.

Upon completion of the reviews the offeror is notified of the outcome through a formal letter. The letter may include questions or concerns that arose during the evaluation. This allows the offeror the opportunity to address any issues.

Conclusion

The Entrepreneurial Offer process has been established and has been piloted on a few of the first incoming offers. To date the process has demonstrated the ability to evaluate offers according to the philosophies and ideals laid out in the legislation guiding commercial development on the ISS. As more offers arise, they may have unique qualities and features that justify altering the process. We are prepared to address these issues as they arise and evolve the process as needed. Comments are invited regarding the process. Further information can be found on the web site for ISS commercial development (<http://commercial.nasa.gov>).

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